

COMPLETE LISTING OF CLAIMSIN ASCENDING ORDER WITH STATUS INDICATOR

Claim 1-4 (canceled)

Claim 5 (previously presented): The substrate processing apparatus according to claim 24 further comprising a second horizontal moving mechanism adapted to move the movable table together with the table moving mechanism to a position adjacent to each of the stages.

Claim 6 (previously presented): The substrate processing apparatus according to claim 25, wherein the second section is a section having the second stage where the container is received from outside the apparatus and/or is made available for delivery to a source outside the apparatus.

Claim 7 (canceled)

Claim 8 (previously presented): The substrate processing apparatus according to claim 25, wherein said apparatus is an integrated unit, and wherein the second section is a section where the container is received from outside of the apparatus and/or is delivered to the outside of the apparatus therefrom, said apparatus further comprising:

a first shutter isolating the second section from the outside of the apparatus to inhibit access to the second section from the outside of the apparatus; and

a second shutter disposed on a side opposite, with respect to the second section, to a side on which the first shutter is disposed.

Claim 9 (original): A substrate processing apparatus according to claim 8, further comprising a controller controlling operations of the first and the second shutters so that the second shutter is closed when the first shutter is opened, and the first shutter is closed when the second shutter is opened.

Claim 10 (canceled)

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Claim 11 (currently amended): The substrate processing apparatus according to claim 10~~24~~,

wherein the sensing device includes a first sensor unit,

wherein the first sensor unit is positioned higher than a mounting surface of the movable table so that the first sensor unit can go to a lower portion of the container through the cut-away area of the stage when the container is placed on the stage and the movable table is positioned lower than a mounting surface of the stage, and

wherein the first sensor unit inspects the condition of the substrates contained in the container, when the movable table is horizontally moved below the stage while the container is kept on the stage.

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Claim 12 (original): The substrate processing apparatus according to claim 11,

wherein the sensing device inspects, as the condition of the substrates contained in the container, the number of the substrates contained in the container and whether or not there is any jump slot in the carrier.

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Claim 13 (original): The substrate processing apparatus according to claim 10,

wherein the sensing device includes a second sensor unit,

wherein the second sensor unit is positioned higher than a mounting surface of the movable table so that the second sensor unit can be positioned in the vicinity of upper portions of the substrates contained in the container when the container is placed on the stage and the movable table is positioned lower than a mounting surface of the stage, and

wherein the second sensor unit inspects whether or not a positioning portion of each substrate is placed in a correct position, when the movable table is horizontally moved below the stage while the container is kept on the stage.

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Claim 14 (previously presented): The substrate processing apparatus according to claim 25, wherein said apparatus is an integrated unit, and wherein the second section is a section where the container is received from an outside of the apparatus,

said apparatus further comprising a third stage, on which a container for containing substrates therein is to be placed, provided in a third section of said apparatus,

wherein the third section is a section where the container is delivered to the outside of the apparatus therefrom,

wherein the third stages has a cut-away area extending from one end of the stage, the cut-away area permits the movable table moving vertically through the cut-away area in order to lift the container from the third stage and withdraw the movable table thus lifted from above the third stage, and

wherein the moving table transports the container between the first, second and third stages.

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Claim 15 (previously presented): The substrate processing apparatus according to claim 24, further comprising a passage means through which the moving table moves and transports the container between the first and second stages.

Claim 16 (withdrawn): A method of carrying a container for containing substrates between two stages included in a substrate processing apparatus, said method comprising the steps of:

- (a) moving a movable table for transporting a container to a position below a surface of a first stage on which a container is placed thereon;
- (b) raising the movable table through a cut-away area formed in the first stage to a position above the surface of the first stage, thereby lifting up the container from the first stage by the movable table;
- (c) withdrawing the movable table, on which the container is placed, from a position above the first stage;
- (d) moving the movable table to a position above a second stage; and
- (e) lowering the movable table through a cut-away area formed in the second stage to a position below a surface of the second stage, thereby placing the container on the second stage.

Claim 17 (withdrawn): The method according to claim 16, wherein the step (a) includes the steps of:

positioning the movable table at a position outside the first stage and lower than a level on which the surface of the first stage lies;

horizontally moving the movable table to the position below the first stage,

said method further comprising the step of (f) inserting a sensing device, provided at the movable table into the container, thereby inspecting a condition of substrates contained in the container while the movable table is moving horizontally.

Claim 18 (withdrawn): The method according to claim 17, wherein in step (f), the sensing device inspects, as the condition of the substrates contained in the container, the number of the substrates contained in the container and whether or not there is any jump slot in the carrier.

Claim 19 (withdrawn): The method according to claim 19, wherein in step (f), the sensing device inspects, as the condition of the substrates contained in the container, the number of the substrates contained in the container and whether or not a positioning portion of each substrate is placed in a correct position.

Claim 20 (withdrawn): A method of handling containers for containing substrates, said method comprising the steps of:

- (a) delivering a plurality of containers containing substrates onto a receiving stage;
- (b) transferring one of the plurality of containers to an unloading stage;
- (c) taking out substrates from the container transferred to the unloading stage; and
- (d) repeating the steps (b) and (c).

Claim 21 (withdrawn): A method of handling containers for containing substrates, said method comprising the steps of:

- (a) putting substrates into a container on a loading stage;
- (b) transferring the container containing the substrates to a delivery stage after the completion of the step (a) before putting substrates into another container;
- (c) repeating the steps (a) and (b), thereby collecting a plurality of containers containing substrates on the delivery stage; and
- (d) delivering the plurality of containers collected on the delivery stage after the completion of the step (c).

Claim 22 (withdrawn): A method of handling containers for containing substrates, said method comprising the steps of:

- (a) delivering a plurality of containers each containing substrates onto a receiving stage;
- (b) transferring one of the plurality of containers to a loading/unloading stage;
- (c) taking out the substrates from the container transferred to the loading/unloading stage;
- (d) putting the substrates taken out of the container in the step (c) into the container from which the substrates were taken out in the step (c) on the loading/unloading stage;
- (e) transferring the container loaded with the substrates in the step (d) to a delivery stage;
- (f) repeating the steps (b) to (e), thereby collecting a plurality of containers loaded with substrates on the delivery stage; and
- (g) delivering the plurality of containers collected on the delivery stage after the completion of the step (f).

Claim 23 (withdrawn): The method according to claim 16, further comprising the step of processing the substrates taken out from the container in step (c), wherein the substrates putted into the container in the step (d) have been processed.

Claim 24 (currently amended): A substrate processing apparatus comprising:
a first stage provided in a first section of said apparatus for supporting thereon a container for holding substrates, the first stage having a cut-away area and a clearance area extending from the cut-away area to one end of the first stage;

a second stage provided in a second section of said apparatus for supporting thereon a container for holding substrates, the second stage having a cut-away area and a clearance area extending from the cut-away area to one end of the second stage;

a movable table for supporting and carrying the container between the first and second stages;

a table moving mechanism adapted to move the movable table, including[:]

a first horizontal moving mechanism adapted to move the movable table horizontally, the horizontal moving mechanism having a guide rail that guides the movable table to move horizontally, and a driving mechanism that moves the movable table along the guide rail[,],

a turning mechanism adapted to turn the guide rail in a horizontal plane so that the guide rail is capable of being located at a first position below the first stage with the guide rail being aligned with the cut-away area thereof and is capable of being located at a second position below the second stage with the guide rail being aligned with the cut-away area thereof[,], and

a lifting mechanism adapted to move the movable table vertically[,]; and

a sensing device coupled to the movable table for sensing a condition of the substrates in the container as the movable table is moved in a direction perpendicular to the substrates into the first position below the first stage;

whereby the movable table ~~is adapted for moving(a) moves~~ horizontally below the cut-away area of one of the stages while being guided by the guide rail located below said one of the stages, ~~moving(b) moves~~ vertically through the cut-away areas of said one of the stages and ~~lifting~~lifts up the container in order to transfer the container from one of the stages to the movable table by the lifting mechanism, and ~~for withdrawing(c) withdraws~~ the container thus lifted from above said one of the stages while being guided by the guide rail located below said one of the stages in order to transport the container to another stage,

wherein the cut-away areas are shaped and sized so that the sensing device has uninterrupted access to the substrates as the movable table moves in a direction perpendicular to the substrates into the first position below the first stage, and so that the container is incapable of passing through the cut-away areas vertically and the moving table is capable of passing through the cut-away areas vertically.

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Claim 25 (previously presented): The apparatus according to claim 24, wherein the first section is a section where the substrates are taken out from the container and are put into the container,

said apparatus further comprising a processing unit that performs a treatment on the substrate taken out from the container at the first section.

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Claim 26 (previously presented): The substrate processing apparatus according to claim 24, wherein the lifting mechanism is slidably mounted to the guide rail to move along the guide rail, and the movable table is mounted to the lifting mechanism.

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3 Claim 27 (previously presented): The substrate processing apparatus according to claim 26, wherein the lifting mechanism includes a shaft connected to a bottom of the movable table, the shaft being adapted to move vertically by the lifting mechanism to move the movable table vertically, and the shaft being sized so that the shaft is capable of horizontally passing through the cut-away area of each of the stages.

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Claim 28 (currently amended): A substrate processing apparatus comprising:

a first stage in a first section of said apparatus for supporting thereon a container for holding substrates, the first stage having a cut-away area and a clearance area extending from the cut-away area to one end of the first stage;

a second stage in a second section of said apparatus for supporting thereon a container for holding substrates, the second stage having a cut-away area and a clearance area extending from the cut-away area to one end of the second stage;

a movable table for supporting and carrying the container between the first and second stages, wherein the movable table is adapted for moving(a) moves horizontally below the cut-away area of one of the stages, moving(b) moves vertically through the cut-away areas of said one of the stages and lifting up the container in order to transfer the container from one of the stages to the movable table, and for withdrawing(c) withdraws the container thus lifted from above said one of the stages in order to transport the container to another stage; and

a sensing device mounted to the movable table in such a manner that the sensing device moves horizontally together with the movable table when the movable table is moving horizontally below the cut-away area of said one of the stages, so that the sensing device scans the substrates contained in the container supported by the stage in order to inspect a containing-condition of the substrates as the movable table is moved in a direction perpendicular to the substrates;

wherein the cut-away areas are shaped and sized so that the sensing device has uninterrupted access to the substrates as the movable table moves perpendicular to the substrates below the first stage, and so that the container is incapable of passing through the cut-away areas vertically and the moving table is capable of passing through the cut-away areas vertically.

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14 Claim 29 (previously presented): The substrate processing apparatus according to claim 28, wherein the sensing device includes a first sensor unit, which is mounted to the movable table in such a manner that the first sensor unit is capable of accessing lower portions of the substrate through the cut-away area and an opening formed at a bottom of the container, when the movable table is moving horizontally below the cut-away area of said one of the stages.

14 Claim 30 (previously presented): The substrate processing apparatus according to claim
28, wherein the sensing device includes a second sensor unit, which is mounted to the movable table
in such a manner that the first sensor unit is capable of accessing upper portions of the substrate
through an upper opening formed at a top of the container, when the movable table is moving
horizontally below the cut-away area of said one of the stages.